

Remarks

Claims 8-13 and 16-18 are pending. Claims 14 and 15 are cancelled in this Response.

Objection To The Drawings.

The Specification has been amended to add part number 46 to the description of Fig. 1.

Claim Rejections.

Claims 8-13 and 16-18 were rejected under Section 103 as being obvious over Havemann (5059546) in view of Takahashi (6207976). The rejection of Claims 8-13 and 16-18 is based on the assertion that Takahashi teaches forming an emitter from a group III/IV semiconductor. This assertion is not correct. Takahashi teaches forming the emitter from a group III/V semiconductor.

"A lamination structure of the emitter layer 44 and emitter cap layer 45 forms a mesa structure over the base layer 43, and the partial upper surface of the base layer 43 is exposed around the emitter layer 44. *The emitter layer 44 ... is made of n-type InGaP having an Si concentration of $3 \times 10^{17} \text{ cm}^{-3}$. The emitter cap layer 45 is made of n-type GaAs having an Si concentration of*" Takahashi, column 12, lines 1-7 (emphasis added).

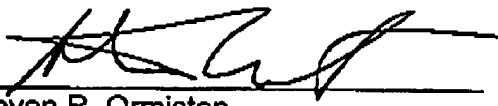
The passage in Takahashi cited by the Examiner, column 3, lines 45-49, describes an "intermediate layer" containing Ga (group III) and S (group VI). This intermediate layer, which is *not* an emitter or emitter layer, is shown in a hetero bipolar transistor (HBT) in Fig. 5 and described in the accompanying text in Takahashi at column 12, lines 9-41.

The Examiner has, therefore, failed to establish a prima facie case of obviousness as to Claims 8-13 and 16-18 and the rejection of those claims should be withdrawn.

The foregoing is believed to be a complete response to the outstanding office action.

Respectfully submitted,

H. Liao, et al.

By 

Steven R. Ormiston
Registration No. 35,974
(208) 433-1991 x204